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EXAMINER	
BRAINARD, TIMOTHY A	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/598,345	MASUDA ET AL.	
	Examiner	Art Unit	
	TIMOTHY A. BRAINARD	3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 January 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 August 2006* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, 8, 10-11, and are rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** et al (US 5576710) in view of **Kasevich** et al (US 5214432) and Dvorak et al (US 2004/0021597). Broderick teaches (claim 1) a wave absorber comprising a conduct layer which is composed of an electric conductor and reflects EM waves, (fig 5, item 76 and col 8, lines 7-19), (claim 1) a first dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 78), (claim 1) a high-resistance conductor layer which has a surface resistivity within a prescribed range and converts EM waves to heat (fig 5, item 84 and col 9, lines 11-25), (claim 1) a second dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 80), (claim 1) the conductor layer reflects EM waves passed through the pattern layer, the second dielectric layer, the high-resistance conductor layer and the first dielectric layer (col 8, lines 7-19), (claim 10) the conduct layer is a grid like conductor layer configured from a grid like pattern (fig 5). Broderick does not teach sequentially laminating multiple layers of a wave absorber together, a pattern layer having multiple patterns composed of an electric conductor wherein each pattern in said pattern layer differs in either or both of size and form relative to another adjacent pattern. **Kasevich**

teaches (claim 1) and a pattern layer having multiple patterns composed of an electric conductor (col 8, lines 42-68), (claim 1) wherein each pattern in said pattern layer differs in either or both of size and form relative to another adjacent pattern (fig 15), (claim 4) one of said loop patterns in said pattern layer has a form where a projecting form is provided on a portion of the lines in loop form (fig 15), (claim 5) the loop patterns in said pattern layer are such that an aggregate of multiple loop patterns of differing form or size constitutes one unit and the space between the pertinent units is disposed at a prescribed interval. **Dvorak** teaches laminating multiple layers of a wave absorber together **(para 5).** It would have been obvious to modify **Broderick** to include sequentially laminating multiple layers of a wave absorber together a pattern layer having multiple patterns composed of an electric conductor wherein each pattern in said pattern layer differs in either or both of size and form relative to another adjacent pattern, one of said loop patterns in said pattern layer has a form where a projecting form is provided on a portion of the lines in loop form the loop patterns in said pattern layer are such that an aggregate of multiple loop patterns of differing form or size constitutes one unit, and the space between the pertinent units is disposed at a prescribed interval because it is one of multiple design choices with no new or unexpected results. While the combination of **Broderick** in view of **Kasevich** in view of **Dvorak** does not teach (claim 2 and 3) the patterns in said pattern layer comprise loop patterns given a loop form; said loop patterns comprise conductors with a shape having a line width value that is 5 percent to 25 percent relative to the center line length which is the length of the center line of the pertinent loop pattern; the center line lengths of

said loop patterns are lengths that are from 60 percent to 140 percent of the wavelength of the EM waves that are the object of absorption; and any one loop pattern in said pattern layer and another loop pattern adjacent to the pertinent loop pattern differ in said center line lengths, (claim 8) the ratio of the thicknesses of said first dielectric layer and second dielectric layer is in a range from 0.1 to 10, and (claim 11) the grid-like conductor layer has a line width of 100 um or less, and a line center interval that is 1/16 or less of the wavelength of the EM waves that are the object of absorption. It would have been obvious to modify **Broderick** in view of **Kasevich** in view of **Dvorak** to include the patterns in said pattern layer comprise loop patterns given a loop form; said loop patterns comprise conductors with a shape having a line width value that is 5 percent to 25 percent relative to the center line length which is the length of the center line of the pertinent loop pattern; the center line lengths of said loop patterns are lengths that are from 60 percent to 140 percent of the wavelength of the EM waves that are the object of absorption; and any one loop pattern in said pattern layer and another loop pattern adjacent to the pertinent loop pattern differ in said center line lengths, the ratio of the thicknesses of said first dielectric layer and second dielectric layer is in a range from 0.1 to 10, and the grid-like conductor layer has a line width of 100 um or less, and a line center interval that is 1/16 or less of the wavelength of the EM waves that are the object of absorption layer because each is one of multiple design choices with no new or unexpected results.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** in view of **Dvorak** as applied to claim 1 above, and

further in view of Bechtel et al (US 2003/0011306). Bechtel teaches (claim 6) a protective layer is laminated onto a surface layer. It would have been obvious to modify **Broderick** in view of **Kasevich** in view of **Dvorak** to include a protective layer is laminated onto at least one of the surface sides of said conduct layer and pattern layer because it is one of multiple design choices with no new or unexpected results.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** in view of **Dvorak** as applied to claim 1 above, and further in view of Pusch (US 4621012). Pusch teaches (claim 7) the surface resistivity of said high-resistance conductor layer is in a range from 100 /square to 100 k /square (col 1, lines 38-47). It would have been obvious to modify **Broderick** in view of **Kasevich** in view of **Dvorak** to include the surface resistivity of said high-resistance conductor layer is in a range from 100 /square to 100 k /square because it is one of multiple design choices with no new or unexpected results.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** in view of **Dvorak** as applied to claim 1 above, and further in view of Nishihata (US 6657005). Nishihata teaches (claim 9) conduct layer is a low-resistance conductor layer with a surface resistivity of 10 /square or less (col 8, lines 24-26). It would have been obvious to modify **Broderick** in view of **Kasevich** in view of **Dvorak** to include conduct layer is a low-resistance conductor layer with a surface resistivity of 10 /square or less because it is one of multiple design choices with no new or unexpected results.

6. Claim 12 rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** in view of **Dvorak** as applied to claim 1 above, and further in view of Dvorak et al (US 2004/0021597). Dvorak teaches (claim 12) the conductors used in said conductor layer are composed of optically transparent conductive material (col 2, lines 8-16) and (claim 12) and dielectric layer and protective layer are composed of optically transparent dielectric material. (col 10, lines 15-17). It would have been obvious to modify **Broderick** in view of **Kasevich** in view of **Dvorak** to include the conductors used in said conduct layer, high-resistance conductor layer and pattern layer are composed of optically transparent conductive material, and said first and second dielectric layer and protective layer are composed of optically transparent dielectric material because each is one of multiple design choices with no new or unexpected results.

7. Claim 13 rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** in view of **Dvorak** as applied to claim 1 above, and further in view of Honda et al (US 5961893). Honda teaches (claim 13) one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive oxide (col 7, line 68 to col 8, lines 8). It would have been obvious to modify **Broderick** in view of **Kasevich** in view of **Dvorak** to include one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive oxide because each is one of multiple design choices with no new or unexpected results.

8. Claim 14 rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** in view of **Dvorak** in view of Honda as applied to claim 13 above, and further in view of Bottari et al (US 2004/0189612). Bottari teaches (claim 14) a conductive oxide is dielectric material containing ATO (para 31). It would have been obvious to modify **Broderick** in view of **Kasevich** in view of **Dvorak** in view of Honda to include a conductive oxide is dielectric material containing ATO because it is one of multiple design choices with no new or unexpected results.

9. Claim 15 and 18 rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** in view of **Dvorak** as applied to claim 1 above, and further in view of Sakurai et al (US 20030044623). Sakurai teaches (claim 15) one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive carbon powder (para 16). It would have been obvious to modify **Broderick** in view of **Kasevich** in view of **Dvorak** to include one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive carbon powder because each is one of multiple design choices with no new or unexpected results. With respect to claim 18 it is expected that if multiple layers of a wave absorber are made from a conductive carbon power that one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive carbon powder where carbon powder content differs among the pertinent high-resistance conductor layer, first dielectric layer and second dielectric layer.

10. Claim 16 rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** in view of **Dvorak** in view of Sakuai as applied to claim 15 above, and further in view of Takahashi (US 5812080). Takahashi teaches (claim 16) a layer is composed of dielectric foam material containing conductive carbon powder (col 7, lines 17-30). It would have been obvious to modify **Broderick** in view of **Kasevich** in view of **Dvorak** to include one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric foam material containing conductive carbon powder because each is one of multiple design choices with no new or unexpected results.

11. Claim 17 rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** in view of **Dvorak** in view of Sakuai as applied to claim 15 above, and further in view of Takahashi (US 5812080). Takahashi teaches (claim 17) a high-resistance conductor layer is composed of dielectric material containing conductive carbon powder (col 11, lines 21-33). It would have been obvious to modify **Broderick** in view of **Kasevich** in view of **Dvorak** to include a high-resistance conductor layer is composed of dielectric material containing conductive carbon powder because each is one of multiple design choices with no new or unexpected results.

12. Claims 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** et al (US 5576710) in view of **Kasevich** et al (US 5214432). Broderick teaches a wave absorber comprising a conduct layer composed of an electric conductor and reflects EM waves, (fig 5, item 76), a first dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 78), a linear pattern resistance layer

having a high-resistance which converts EM waves to heat and has linear patterns composed of high resistance conductor which is a conductor having a higher resistivity than said conductor layer (fig 5, item 84 and col 8), a second dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 80), the conductor layer reflects EM waves passed through the pattern layer, the second dielectric layer, the high-resistance conductor layer and the first dielectric layer (col 8, lines 7-19). **Broderick** does not teach a pattern layer having multiple patterns composed of a conductor. **Kasevich** teaches a pattern laver having multiple patterns composed of a conductor. It would have been obvious to modify **Broderick** to include a pattern laver having multiple patterns composed of a conductor because it is one of multiple design choices with no new or unexpected results. while **Broderick** in view of **Kasevich** does not teach the linear patter resistance layer having a higher resistance layer than the conduct layer, it would have been obvious to modify Broderick in view of Kasevich to include the linear patter resistance layer having a higher resistance layer than the conduct layer because it is one of multiple design choices with no new or unexpected results.

13. Claim 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** as applied to claim 19 above, and further in view of Okayama et al (US 2003/0107025). Okayama teaches (claim 20-21) laminating multiple layer of a wave absorber into a pertinent order (col 11, lines 21-33). Broderick teaches said conduct layer, said first dielectric layer, said linear pattern resistance layer, said second dielectric layer, and said pattern layer are in the pertinent order. It would have

been obvious to modify **Broderick** in view of **Kasevich** to include a said conduct layer, said first dielectric layer, said linear pattern resistance layer, said second dielectric layer, and said pattern layer are laminated in the pertinent order or said conduct layer, said first dielectric layer, said pattern layer, said second dielectric layer, and said linear pattern resistance layer are laminated in the pertinent order because each is one of multiple design choices with no new or unexpected results.

14. Claims 22-23 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** et al (US 5576710) in view of **Kasevich** et al (US 5214432) and **Dvorak**. Broderick teaches a wave absorber comprising a structure where at least a grid like conduct layer which is formed into a grid by patterns composed conductor and reflects EM waves (fig 5, item 76), a first dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 8), a linear pattern resistance layer which converts EM waves to heat and has linear patterns composed of a high-resistance which is a conductor with a higher resistivity than the conductor that forms said grid like conductor layer (fig 5, item 84 and col 8), a second dielectric layer composed of dielectric material in one layer or multiple layers (fig 1, item 28 and/or 26), (claim 23) said linear pattern resistance layer is configured either by having linear patterns composed of a high-resistance conductor intersect (fig 2), the grid-like conductor layer reflects EM waves passed through the pattern layer, the second dielectric layer the linear pattern resistance layer and the fist dielectric layer (col 8, lines 7-19). **Broderick** does not teach a pattern layer having multiple patterns composed of a conductor. **Kasevich** teaches a pattern laver having multiple patterns

composed of a conductor, (claim 27) each pattern of said pattern layer differs in at least one or the other of size and form relative to another adjacent pattern (fig 15), (claim 28) each pattern of said pattern layer is configured to have at least one or the other of a form that is a loop form having these forms as its external form, and a form that adds a projecting form to the pertinent one of these forms (fig 15). It would have been obvious to modify **Broderick** to include a pattern laver having multiple patterns composed of a conductor because it is one of multiple design choices with no new or unexpected results. **Dvorak** teaches laminating multiple layers of a wave absorber together **(para 5).** It would have been obvious to modify **Broderick** to include sequentially laminating multiple layers of a wave absorber together in a pertinent order because it is one of multiple design choices with no new or unexpected results. while **Broderick** in view of **Kasevich** and **Dvorak** does not teach the linear patter resistance layer having a higher resistance layer than the conduct layer, it would have been obvious to modify Broderick in view of Kasevich to include the linear patter resistance layer having a higher resistance layer than the conduct layer because it is one of multiple design choices with no new or unexpected results. With respect to claims 25 and 26, while **Broderick** in view of **Kasevich** and **Dvorak** does not teach the grid-like conductor layer has a line width of 100 um or less, and a line center interval that is 1/16 or less of the wavelength of the EM waves that are the object of absorption, It would have been obvious to modify **Broderick** in view of **Kasevich** and **Dvorak** to include the grid-like conductor layer has a line width of 100 um or less, and a line center interval that is 1/16 or less of the

wavelength of the EM waves that are the object of absorption because it is one of multiple design choices with no new or unexpected results.

15. Claim 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** and **Dvorak** as applied to claim 22 above, and further in view of Widagodo et al (US 2004/0094750). Widagdo teaches the high-resistance conductor constituting said linear pattern resistance layer has a volume resistivity that is 1.0 E-4 ohmcm or more and 1.0 E-1 ohmcm or less (para 24) It would have been obvious to modify **Broderick** in view of **Kasevich** and **Dvorak** to include the high-resistance conductor constituting said linear pattern resistance layer has a volume resistivity that is 1.0 E-4 cm or more and 1.0 E-1 cm or less because it is one of multiple design choices with no new or unexpected results.

16. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** in view of **Dvorak** as applied to claim 22 above, and further in view of Bechtel et al (US 2003/0011306). Bechtel teaches a protective layer is laminated onto a surface layer. It would have been obvious to modify **Broderick** in view of **Kasevich** in view of **Dvorak** to include a protective layer is laminated onto at least one of the surface sides of said conduct layer and pattern layer because it is one of multiple design choices with no new or unexpected results.

17. Claim 30 rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** in view of **Dvorak** as applied to claim 22 above, and further in view of Dvorak et al (US 2004/0021597). Dvorak teaches (claim 30) the conductors used in said conductor layer are composed of optically transparent conductive material (col 2,

lines 8-16). It would have been obvious to modify **Broderick** in view of **Kasevich** in view of **Dvorak** to include all of said component layers are made transparent or semi-transparent because each is one of multiple design choices with no new or unexpected results.

18. Claims 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** et al (US 5576710) in view of **Kasevich** et al (US 5214432) and **Dvorak** et al (US 2004/0021597) and Abe et al (US 6456819). Broderick teaches a wave absorber manufacturing method comprising a process of radio wave layer composed of a conductor that reflects EM waves (fig 5, 76 and col 8, lines 7-19), a first dielectric layer composed of dielectric material in one layer or multiple layers (fir 5, item 78), a linear pattern resistance layer which converts EM waves to heat and has linear patterns composed of a high-resistance conductor (fig 5, item 84), a second dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 80), a pattern layer having multiple patterns composed of a conductor wherein the radio wave reflector layer reflects EM waves passed through the pattern Layer the second dielectric layer, the linear pattern resistance Layer and the first dielectric layer (col 8). **Kasevich** teaches a pattern layer having multiple patterns composed of a conductor (col 8, lines 42-68), and a process of forming the linear patterns of said linear pattern resistance layer using the screen printing method or ink jet method (col 8, lines 42-68). Dvorak teach laminating a radio reflector layer composed of a conductor that reflects EM waves (para 5). It would have been obvious to modify Broderick to include a pattern layer having multiple patterns composed of a conductor, and a process of forming the linear

patterns of said linear pattern resistance layer using the screen printing method, and laminating a radio reflector layer composed of a conductor that reflects EM waves because it is one of multiple design choices with new or unexpected results. Varaprasado teaches the linear pattern resistance layer using the screen printing method. It would have been obvious to modify Broderick to include the linear pattern resistance layer using the screen printing method because it is one of multiple design choices with no new or unexpected results. While the combination of **Broderick** in view of **Kasevich** and **Dvorak** does not teach a conductor with a higher resistivity than said radio wave reflection layer, It would have been obvious to modify **Broderick** in view of **Kasevich** and **Dvorak** because it is one of multiple design choices with no new or unexpected results.

19. Claims 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** et al (US 5576710) in view of **Kasevich** et al (US 5214432) and **Dvorak** et al (US 2004/0021597) and Kim (US 2004/0160486). Broderick teaches a wave absorber manufacturing method comprising a process of radio wave layer composed of a conductor that reflects EM waves (fig 5, 76 and col 8, lines 7-19), a first dielectric layer composed of dielectric material in one layer or multiple layers (fir 1, item 78), a linear pattern resistance layer which converts EM waves to heat and has linear patterns composed of a high-resistance conductor (fig 5, item84), a second dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 80). **Kasevich** teaches a pattern layer having multiple patterns composed of a conductor (col 8, lines 42-68), and a process of forming the linear patterns of said linear pattern resistance

layer using the screen printing method or ink jet method (col 8, lines 42-68). Dvorak teach laminating a radio reflector layer composed of a conductor that reflects EM waves (para 5). It would have been obvious to modify Broderick to include a pattern layer having multiple patterns composed of a conductor, and a process of forming the linear patterns of said linear pattern resistance layer using the screen printing method, and laminating a radio reflector layer composed of a conductor that reflects EM waves because it is one of multiple design choices with new or unexpected results. Kim teaches the linear pattern resistance layer using the ink jet method (para 59). It would have been obvious to modify Broderick to include the linear pattern resistance layer using the ink jet method because it is one of multiple design choices with no new or unexpected results. While the combination of **Broderick** in view of **Kasevich** and **Dvorak** does not teach a conductor with a higher resistivity than said radio wave reflection layer, It would have been obvious to modify **Broderick** in view of **Kasevich** and **Dvorak** because it is one of multiple design choices with no new or unexpected results.

20. Claims 33 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** et al (US 5576710) in view of **Kasevich** et al (US 5214432) and Sukurai et al Broderick teaches a wave absorber comprising a conduct layer composed of an electric conductor and reflects EM waves, (fig 5, item 76), a first dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 78), a planar resistance conductor (fig 5, item 84), a second dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 80), the conduct layer reflects EM

waves passed through the pattern layer, the second dielectric layer, the planar resistance laver and the first dielectric layer (col 8). Broderick does not teach a pattern layer having multiple patterns composed of an electric conductor wherein each pattern in said pattern layer differs in either or both of size and form relative to another adjacent pattern. **Kasevich** teaches a pattern layer having multiple patterns composed of an electric conductor (col 8, lines 42-68), (claim 36) each pattern of said pattern layer differs at least in one or the other of size and form relative to another adjacent pattern (fig 15), (claim 37) each pattern of said pattern layer is configured to have at least one or the other of a form that is any one of a loop form having these forms as its external form, and a form that adds a projecting form to the pertinent one of these forms (fig 15). Sukurai teaches dielectric material containing conductive powder (para 16). It would have been obvious to modify Broderick to include a pattern layer having multiple patterns composed of an electric conductor and a dielectric material containing conductive powder because each is one of multiple design choices with no new or unexpected results.

21. Claim 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** in view of Sakuai as applied to claim 15 above, and further in view of Okayama et al (US 2003/0107025). Okayama teaches laminating multiple layer of a wave absorber into a pertinent order (col 11, lines 21-33). It would have been obvious to modify **Broderick** in view of **Kasevich** to include a said conduct layer, said first dielectric layer, said linear pattern resistance layer, said second dielectric layer, and said pattern layer are laminated in the pertinent order or said

conduct layer, said first dielectric layer, said pattern layer, said second dielectric layer, and said linear pattern resistance layer are laminated in the pertinent order because each is one of multiple design choices with no new or unexpected results.

22. Claim 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** in view of Sakuai as applied to claim 15 above, and further in view of Ishikawa (US 4726980). Ishikawa teaches planar resistance layer is composed of material where glass cloth is impregnated with epoxy resin in which conductive powder such as carbon, silver, nickel or the like has been dispersed (col 1, lines 19-27). It would have been obvious to modify **Broderick** in view of **Kasevich** to include planar resistance layer is composed of material where glass cloth is impregnated with epoxy resin in which conductive powder such as carbon, silver, nickel or the like has been dispersed because each is one of multiple design choices with no new or unexpected results.

23. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** as applied to claim 1 above, and further in view of Bechtel et al (US 2003/0011306). Bechtel teaches a protective layer is laminated onto a surface layer. It would have been obvious to modify **Broderick** in view of **Kasevich** to include a protective layer is laminated onto at least one of the surface sides of said conduct layer and pattern layer because it is one of multiple design choices with no new or unexpected results.

24. Claims 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** et al (US 5576710) in view of **Kasevich** et al (US 5214432) and Sukurai et al

and Okayama. Broderick teaches a wave absorber comprising a conduct layer composed of an electric conductor, (fig 5, item 76), a first dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 78), a planar resistance layer composed of a dielectric material conductor (fig 5, item 84), a second dielectric layer composed of dielectric material in one layer or multiple layers (fig , item 80) the conduct layer reflects EM waves passed through the pattern layer, the second dielectric layer, the planar resistance laver and the first dielectric layer (col 8). Broderick does not teach a pattern layer having multiple patterns composed of an electric conductor wherein each pattern in said pattern layer differs in either or both of size and form relative to another adjacent pattern. **Kasevich** teaches a pattern layer having multiple patterns composed of an electric conductor and a process of forming a prepreg (col 8, lines 42-68). Sukurai teaches dielectric material containing conductive powder (para 16). Okayama teaches laminating multiple layer of a wave absorber into a pertinent order (col 11, lines 21-33) and with respect to said planar resistance layer, said first dielectric layer and said second dielectric layer are bonded with interposition of the pertinent planar resistance layer (col 11, lines 21-23). It would have been obvious to modify **Broderick** in view of **Kasevich** to include a said conduct layer, said first dielectric layer, said linear pattern resistance layer, said second dielectric layer, and said pattern layer are laminated in the pertinent order or said conduct layer, said first dielectric layer, said pattern layer, said second dielectric layer, and said linear pattern resistance layer are laminated in the pertinent order because each is one of multiple design choices with no new or unexpected results.

25. Claim 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** and Sukurai et al and Okayama as applied to claim 39 above, and further in view of Ishikawa (US 4726980). Ishikawa teaches planar resistance layer is composed of material where glass cloth is impregnated with epoxy resin in which conductive powder such as carbon, silver, nickel or the like has been dispersed (col 1, lines 19-27). It would have been obvious to modify **Broderick** in view of **Kasevich** to include planar resistance layer is composed of material where glass cloth is impregnated with epoxy resin in which conductive powder such as carbon, silver, nickel or the like has been dispersed because each is one of multiple design choices with no new or unexpected results.

26. Claims 41 and 42 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** et al (US 5576710) in view of **Kasevich** et al (US 5214432) and **Sukurai** and **Okyama**. Broderick teaches a wave absorber comprising a conduct layer composed of an electric conductor, (fig 5, item 76), a first dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 78), a planar resistance layer composed of a dielectric material conductor (fig 5, item 84), a second dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 80), the conduct layer reflects EM waves passed through the pattern layer, the second dielectric layer, the planar resistance laver and the first dielectric layer (col 8). Broderick does not teach a pattern layer having multiple patterns composed of an electric conductor wherein each pattern in said pattern layer differs in either or both of size and form relative to another adjacent pattern. **Kasevich** teaches a pattern layer having

multiple patterns composed of an electric conductor and a process of forming a prepreg (col 8, lines 42-68), Sukurai teaches dielectric material containing conductive powder (para 16). Okayama teaches laminating multiple layer of a wave absorber into a pertinent order (col 11, lines 21-33) one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive carbon powder (para 16). t would have been obvious to modify **Broderick** in view of **Kasevich** to include one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive carbon powder because each is one of multiple design choices with no new or unexpected results. Okayama teaches laminating multiple layer of a wave absorber into a pertinent order (col 11, lines 21-33) and with respect to said planar resistance layer, said first dielectric layer and said second dielectric layer are bonded with interposition of the pertinent planar resistance layer (col 11, lines 21-23). It would have been obvious to modify **Broderick** in view of **Kasevich** to include a said conduct layer, said first dielectric layer, said linear pattern resistance layer, said second dielectric layer, and said pattern layer are laminated in the pertinent order or said conduct layer, said first dielectric layer, said pattern layer, said second dielectric layer, and said linear pattern resistance layer are laminated in the pertinent order because each is one of multiple design choices with no new or unexpected results.

27. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** and **Sukurai** and **Okyama** as applied to claim 41

above, and further in view of Pusch (US 4621012). Pusch teaches (claim 7) the surface resistivity of said high-resistance conductor layer is in a range from 100 /square to 100 k /square (col 1, lines 38-47). It would have been obvious to modify **Broderick** in view of **Kasevich** and **Sukurai and Okyama** to include the surface resistivity of said high-resistance conductor layer is in a range from 100 /square to 100 k /square because it is one of multiple design choices with no new or unexpected results.

28. Claim 44 rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** and **Sukurai** and **Okyama** as applied to claim 41 above, and further in view of Honda et al (US 5961893). Honda teaches (claim 13) one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive oxide (col 7, line 68 to col 8, lines 8). It would have been obvious to modify **Broderick** in view of **Kasevich** and **Sukurai and Okyama** to include one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive oxide because each is one of multiple design choices with no new or unexpected results.

29. Claim 45 rejected under 35 U.S.C. 103(a) as being unpatentable over **Broderick** in view of **Kasevich** and **Sukurai** and **Okyama** in view of Honda as applied to claim 44 above, and further in view of Bottari et al (US 2004/0189612). Bottari teaches (claim 14) a conductive oxide is dielectric material containing ATO (para 31).It would have been obvious to modify **Broderick** in view of **Kasevich** and **Sukurai** and **Okyama** in view of

Honda to include a conductive oxide is dielectric material containing ATO because it is one of multiple design choices with no new or unexpected results.

Double Patenting

30. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

31. Claims 1-5, 8, 10-11 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** et al (US 5576710) in view of **Dvorak** et al (US 2004/0021597). Broderick teaches (claim 1) a wave absorber comprising a conduct layer which is composed of an electric conductor and reflects EM waves, (fig 5, item 76 and col 8, lines 7-19), (claim 1) a first dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 78), (claim 1) a high-resistance conductor layer which has a surface resistivity within a prescribed range and converts EM waves to heat (fig 5, item 84 and col 9, lines 11-25), (claim 1) a second dielectric

layer composed of dielectric material in one layer or multiple layers (fig 5, item 80), (claim 1) the conductor layer reflects EM waves passed through the pattern layer, the second dielectric layer, the high-resistance conductor layer and the first dielectric layer (col 8, lines 7-19), (claim 10) the conduct layer is a grid like conductor layer configured from a grid like pattern (fig 5). Broderick does not teach sequentially laminating multiple layers of a wave absorber together, a pattern layer having multiple patterns composed of an electric conductor wherein each pattern in said pattern layer differs in either or both of size and form relative to another adjacent pattern. **Application No. 11874701** teaches (claim 1) and a pattern layer having multiple patterns composed of an electric conductor (col 8, lines 42-68), (claim 1) wherein each pattern in said pattern layer differs in either or both of size and form relative to another adjacent pattern (fig 15), (claim 4) one of said loop patterns in said pattern layer has a form where a projecting form is provided on a portion of the lines in loop form (fig 15), (claim 5) the loop patterns in said pattern layer are such that an aggregate of multiple loop patterns of differing form or size constitutes one unit and the space between the pertinent units is disposed at a prescribed interval. **Dvorak** teaches laminating multiple layers of a wave absorber together **(para 5).** It would have been obvious to modify **Broderick** to include sequentially laminating multiple layers of a wave absorber together a pattern layer having multiple patterns composed of an electric conductor wherein each pattern in said pattern layer differs in either or both of size and form relative to another adjacent pattern, one of said loop patterns in said pattern layer has a form where a projecting form is provided on a portion of the lines in loop form the loop patterns in said pattern

layer are such that an aggregate of multiple loop patterns of differing form or size constitutes one unit, and the space between the pertinent units is disposed at a prescribed interval because it is one of multiple design choices with no new or unexpected results. While the combination of **Application No. 11874701** in view of **Broderick** in view of **Dvorak** does not teach (claim 2 and 3) the patterns in said pattern layer comprise loop patterns given a loop form; said loop patterns comprise conductors with a shape having a line width value that is 5 percent to 25 percent relative to the center line length which is the length of the center line of the pertinent loop pattern; the center line lengths of said loop patterns are lengths that are from 60 percent to 140 percent of the wavelength of the EM waves that are the object of absorption; and any one loop pattern in said pattern layer and another loop pattern adjacent to the pertinent loop pattern differ in said center line lengths, (claim 8) the ratio of the thicknesses of said first dielectric layer and second dielectric layer is in a range from 0.1 to 10, and (claim 11) the grid-like conductor layer has a line width of 100 um or less, and a line center interval that is 1/16 or less of the wavelength of the EM waves that are the object of absorption. It would have been obvious to modify **Application No. 11874701** in view of **Broderick** in view of **Dvorak** to include the patterns in said pattern layer comprise loop patterns given a loop form; said loop patterns comprise conductors with a shape having a line width value that is 5 percent to 25 percent relative to the center line length which is the length of the center line of the pertinent loop pattern; the center line lengths of said loop patterns are lengths that are from 60 percent to 140 percent of the wavelength of the EM waves that are the object of absorption; and any one loop pattern

in said pattern layer and another loop pattern adjacent to the pertinent loop pattern differ in said center line lengths, the ratio of the thicknesses of said first dielectric layer and second dielectric layer is in a range from 0.1 to 10, and the grid-like conductor layer has a line width of 100 um or less, and a line center interval that is 1/16 or less of the wavelength of the EM waves that are the object of absorption layer because each is one of multiple design choices with no new or unexpected results.

This is a provisional obviousness-type double patenting rejection.

32. Claim 6 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** and **Bechtel**. Claim 1 is rejected as described above. Bechtel teaches (claim 6) a protective layer is laminated onto a surface layer. It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and **Dvorak** to include a protective layer is laminated onto at least one of the surface sides of said conduct layer and pattern layer because it is one of multiple design choices with no new or unexpected results.

This is a provisional obviousness-type double patenting rejection.

33. Claim 7 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** and Pusch (US 4621012). Claim 1 is rejected as described above. Pusch teaches (claim 7) the surface resistivity of said high-resistance conductor layer is in a range from 100 /square to 100 k /square (col 1, lines 38-47). It would have been obvious to modify **Application No. 11874701** in

view of **Broderick** and **Dvorak** to include the surface resistivity of said high-resistance conductor layer is in a range from 100 /square to 100 k /square because it is one of multiple design choices with no new or unexpected results.

This is a provisional obviousness-type double patenting rejection

34. Claim 9 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** and Nishihata (US 6657005). Claim 1 is rejected as described above. Nishihata teaches (claim 9) conduct layer is a low-resistance conductor layer with a surface resistivity of 10 /square or less (col 8, lines 24-26). It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and **Dvorak** to include conduct layer is a low-resistance conductor layer with a surface resistivity of 10 /square or less because it is one of multiple design choices with no new or unexpected results.

35. Claim 12 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** Claim 1 is rejected as described above. Dvorak teaches (claim 12) the conductors used in said conductor layer are composed of optically transparent conductive material (col 2, lines 8-16) and (claim 12) and dielectric layer and protective layer are composed of optically transparent dielectric material. (col 10, lines 15-17). It would have been obvious to modify **Application No. 11874701** in view of **Broderick** to include the conductors used in said conduct layer, high-resistance conductor layer and pattern layer are composed of optically transparent conductive

material, and said first and second dielectric layer and protective layer are composed of optically transparent dielectric material because each is one of multiple design choices with no new or unexpected results.

36. Claim 13 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** and **Honda** et al (US 5961893). Claim 1 is rejected as described above. Honda teaches (claim 13) one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive oxide (col 7, line 68 to col 8, lines 8). It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and **Dvorak** to include one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive oxide because each is one of multiple design choices with no new or unexpected results.

37. Claim 14 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** and **Honda** et al (US 5961893) and Bottari et al (US 2004/0189612). Claim 13 is rejected as described above. Bottari teaches (claim 14) a conductive oxide is dielectric material containing ATO (para 31). It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and **Dvorak** and **Honda** in view of Honda to include a conductive oxide is dielectric material

containing ATO because it is one of multiple design choices with no new or unexpected results.

38. Claim 15 and 18 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** and Sakurai et al (US 20030044623). Claim 1 is rejected as described above. Sakurai teaches (claim 15) one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive carbon powder (para 16). It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and **Dvorak** to include one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive carbon powder because each is one of multiple design choices with no new or unexpected results. With respect to claim 18 it is expected that if multiple layers of a wave absorber are made from a conductive carbon power that one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive carbon powder where carbon powder content differs among the pertinent high-resistance conductor layer, first dielectric layer and second dielectric layer.

39. Claim 16 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** and Sakurai and Takahashi (US 5812080). Claim 15 is rejected as described above. Takahashi teaches (claim 16) a layer is

composed of dielectric foam material containing conductive carbon powder (col 7, lines 17-30). It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and **Dvorak** and Sakurai to include one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric foam material containing conductive carbon powder because each is one of multiple design choices with no new or unexpected results.

40. Claim 17 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** and Sakurai and Takahashi (US 5812080). Claim 15 is rejected as described above. Takahashi teaches (claim 17) a high-resistance conductor layer is composed of dielectric material containing conductive carbon powder (col 11, lines 21-33). It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and **Dvorak** and Sakurai to include a high-resistance conductor layer is composed of dielectric material containing conductive carbon powder because each is one of multiple design choices with no new or unexpected results.

41. Claim 19 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick**. Broderick teaches a wave absorber comprising a conduct layer composed of an electric conductor and reflects EM waves, (fig 5, item 76), a first dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 78), a linear pattern resistance layer having a high-resistance which converts

EM waves to heat and has linear patterns composed of high resistance conductor which is a conductor having a higher resistivity than said conductor layer (fig 5, item 84 and col 8), a second dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 80), the conductor layer reflects EM waves passed through the pattern layer, the second dielectric layer, the high-resistance conductor layer and the first dielectric layer (col 8, lines 7-19). **Broderick** does not teach a pattern layer having multiple patterns composed of a conductor. **Application No. 11874701** teaches a pattern laver having multiple patterns composed of a conductor. It would have been obvious to modify **Broderick** to include a pattern laver having multiple patterns composed of a conductor because it is one of multiple design choices with no new or unexpected results. while **Broderick** in view of **Application No. 11874701** does not teach the linear patter resistance layer having a higher resistance layer than the conduct layer, it would have been obvious to modify **Broderick** in view of **Application No. 11874701** to include the linear patter resistance layer having a higher resistance layer than the conduct layer because it is one of multiple design choices with no new or unexpected results.

42. Claim 20-21 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Okayama** et al (US 2003/0107025). Claim 19 is rejected as described above. Okayama teaches (claim 20-21) laminating multiple layer of a wave absorber into a pertinent order (col 11, lines 21-33). Broderick teaches said conduct layer, said first dielectric layer, said linear pattern resistance layer, said second

dielectric layer, and said pattern layer are in the pertinent order. It would have been obvious to modify **Application No. 11874701** in view of **Broderick** to include a said conduct layer, said first dielectric layer, said linear pattern resistance layer, said second dielectric layer, and said pattern layer are laminated in the pertinent order or said conduct layer, said first dielectric layer, said pattern layer, said second dielectric layer, and said linear pattern resistance layer are laminated in the pertinent order because each is one of multiple design choices with no new or unexpected results.

43. Claim 22-23 and 25-28 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak**. Broderick teaches a wave absorber comprising a structure where at least a grid like conduct layer which is formed into a grid by patterns composed conductor and reflects EM waves (fig 5, item 76), a first dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 8), a linear pattern resistance layer which converts EM waves to heat and has linear patterns composed of a high-resistance which is a conductor with a higher resistivity than the conductor that forms said grid like conductor layer (fig 5, item 84 and col 8), a second dielectric layer composed of dielectric material in one layer or multiple layers (fig 1, item 28 and/or 26), (claim 23) said linear pattern resistance layer is configured either by having linear patterns composed of a high-resistance conductor intersect (fig 2), the grid-like conductor layer reflects EM waves passed through the pattern layer, the second dielectric layer the linear pattern resistance layer and the fist dielectric layer (col 8, lines 7-19). **Broderick** does not teach a pattern layer having

multiple patterns composed of a conductor. **Application No. 11874701** teaches a pattern laver having multiple patterns composed of a conductor, (claim 27) each pattern of said pattern layer differs in at least one or the other of size and form relative to another adjacent pattern (fig 15), (claim 28) each pattern of said pattern layer is configured to have at least one or the other of a form that is a loop form having these forms as its external form, and a form that adds a projecting form to the pertinent one of these forms (fig 15). It would have been obvious to modify **Broderick** to include a pattern laver having multiple patterns composed of a conductor because it is one of multiple design choices with no new or unexpected results. **Dvorak** teaches laminating multiple layers of a wave absorber together **(para 5).** It would have been obvious to modify **Broderick** to include sequentially laminating multiple layers of a wave absorber together in a pertinent order because it is one of multiple design choices with no new or unexpected results. while **Application No. 11874701** in view of **Broderick** and **Dvorak** does not teach the linear patter resistance layer having a higher resistance layer than the conduct layer, it would have been obvious to modify Broderick in view of **Application No. 11874701** to include the linear patter resistance layer having a higher resistance layer than the conduct layer because it is one of multiple design choices with no new or unexpected results. With respect to claims 25 and 26, while **Application No. 11874701** in view of **Broderick** and **Dvorak** does not teach the grid-like conductor layer has a line width of 100 um or less, and a line center interval that is 1/16 or less of the wavelength of the EM waves that are the object of absorption, It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and **Dvorak** to

include the grid-like conductor layer has a line width of 100 um or less, and a line center interval that is 1/16 or less of the wavelength of the EM waves that are the object of absorption because it is one of multiple design choices with no new or unexpected results.

44. Claim 24 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** and Widagodo. Claim 2 is rejected as described above. Widagdo teaches the high-resistance conductor constituting said linear pattern resistance layer has a volume resistivity that is 1.0 E-4 ohmcm or more and 1.0 E-1 ohmcm or less (para 24) It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and **Dvorak** to include the high-resistance conductor constituting said linear pattern resistance layer has a volume resistivity that is 1.0 E-4 cm or more and 1.0 E-1 cm or less because it is one of multiple design choices with no new or unexpected results.

45. Claim 29 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** and **Bechtel**. Claim 22 is rejected as described above. Bechtel teaches (claim 6) a protective layer is laminated onto a surface layer. It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and **Dvorak** to include a protective layer is laminated onto at least one of the surface sides of said conduct layer and pattern layer because it is one of multiple design choices with no new or unexpected results.

46. Claim 29 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak.** Claim 22 is rejected as described above. Dvorak teaches (claim 30) the conductors used in said conductor layer are composed of optically transparent conductive material (col 2, lines 8-16). It would have been obvious to modify **Broderick** in view of **Kasevich** in view of **Dvorak** to include all of said component layers are made transparent or semi-transparent because each is one of multiple design choices with no new or unexpected results.

47. Claim 29 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** and Abe et al (US 6456819). Claim 22 is rejected as described above. Broderick teaches a wave absorber manufacturing method comprising a process of radio wave layer composed of a conductor that reflects EM waves (fig 5, 76 and col 8, lines 7-19), a first dielectric layer composed of dielectric material in one layer or multiple layers (fir 5, item 78), a linear pattern resistance layer which converts EM waves to heat and has linear patterns composed of a high-resistance conductor (fig 5, item 84), a second dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 80), a pattern layer having multiple patterns composed of a conductor wherein the radio wave reflector layer reflects EM waves passed through the pattern Layer the second dielectric layer, the linear pattern resistance Layer and the first dielectric layer (col 8). **Application No. 11874701** teaches a pattern layer having multiple patterns composed of a conductor (col 8, lines

42-68), and a process of forming the linear patterns of said linear pattern resistance layer using the screen printing method or ink jet method (col 8, lines 42-68). Dvorak teach laminating a radio reflector layer composed of a conductor that reflects EM waves (para 5). It would have been obvious to modify Broderick to include a pattern layer having multiple patterns composed of a conductor, and a process of forming the linear patterns of said linear pattern resistance layer using the screen printing method, and laminating a radio reflector layer composed of a conductor that reflects EM waves because it is one of multiple design choices with new or unexpected results. Varaprasado teaches the linear pattern resistance layer using the screen printing method . It would have been obvious to modify Broderick to include the linear pattern resistance layer using the screen printing method because it is one of multiple design choices with no new or unexpected results. While the combination of **Application No. 11874701** in view of **Broderick** and **Dvorak** does not teach a conductor with a higher resistivity than said radio wave reflection layer, It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and **Dvorak** because it is one of multiple design choices with no new or unexpected results.

48. Claim 32 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** and Kim (US 2004/0160486). Claim 22 is rejected as described above. Broderick teaches a wave absorber manufacturing method comprising a process of radio wave layer composed of a conductor that reflects EM waves (fig 5, 76 and col 8, lines 7-19), a first dielectric layer composed of dielectric

material in one layer or multiple layers (fir 1, item 78), a linear pattern resistance layer which converts EM waves to heat and has linear patterns composed of a high-resistance conductor (fig 5, item84), a second dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 80). **Application No. 11874701** teaches a pattern layer having multiple patterns composed of a conductor (col 8, lines 42-68), and a process of forming the linear patterns of said linear pattern resistance layer using the screen printing method or ink jet method (col 8, lines 42-68). Dvorak teach laminating a radio reflector layer composed of a conductor that reflects EM waves (para 5). It would have been obvious to modify Broderick to include a pattern layer having multiple patterns composed of a conductor, and a process of forming the linear patterns of said linear pattern resistance layer using the screen printing method, and laminating a radio reflector layer composed of a conductor that reflects EM waves because it is one of multiple design choices with new or unexpected results. Kim teaches the linear pattern resistance layer using the ink jet method (para 59). It would have been obvious to modify Broderick to include the linear pattern resistance layer using the ink jet method because it is one of multiple design choices with no new or unexpected results. While the combination of **Application No. 11874701** in view of **Broderick** and **Dvorak** does not teach a conductor with a higher resistivity than said radio wave reflection layer, It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and **Dvorak** because it is one of multiple design choices with no new or unexpected results.

49. Claim 33 and 36-37 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** and Sukurai et al. Broderick teaches a wave absorber comprising a conduct layer composed of an electric conductor and reflects EM waves, (fig 5, item 76), a first dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 78), a planar resistance conductor (fig 5, item 84), a second dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 80), the conduct layer reflects EM waves passed through the pattern layer, the second dielectric layer, the planar resistance laver and the first dielectric layer (col 8). Broderick does not teach a pattern layer having multiple patterns composed of an electric conductor wherein each pattern in said pattern layer differs in either or both of size and form relative to another adjacent pattern. **Application No. 11874701** teaches a pattern layer having multiple patterns composed of an electric conductor (col 8, lines 42-68), (claim 36) each pattern of said pattern layer differs at least in one or the other of size and form relative to another adjacent pattern (fig 15), (claim 37) each pattern of said pattern layer is configured to have at least one or the other of a form that is any one of a loop form having these forms as its external form, and a form that adds a projecting form to the pertinent one of these forms (fig 15). Sukurai teaches dielectric material containing conductive powder (para 16). It would have been obvious to modify Broderick to include a pattern layer having multiple patterns composed of an electric conductor and a dielectric material containing

conductive powder because each is one of multiple design choices with no new or unexpected results.

50. Claim 34 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** and Sukurai and Okayama et al (US 2003/0107025). Claim 33 is rejected as described above. Okayama teaches laminating multiple layer of a wave absorber into a pertinent order (col 11, lines 21-33). It would have been obvious to modify **Application No. 11874701** in view of **Broderick** include a said conduct layer, said first dielectric layer, said linear pattern resistance layer, said second dielectric layer, and said pattern layer are laminated in the pertinent order or said conduct layer, said first dielectric layer, said pattern layer, said second dielectric layer, and said linear pattern resistance layer are laminated in the pertinent order because each is one of multiple design choices with no new or unexpected results.

51. Claim 35 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** and Sukurai and Ishikawa (US 4726980). Claim 33 is rejected as described above. Ishikawa teaches planar resistance layer is composed of material where glass cloth is impregnated with epoxy resin in which conductive powder such as carbon, silver, nickel or the like has been dispersed (col 1, lines 19-27). It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and **Dvorak** to include planar resistance layer is composed of material where glass cloth is impregnated with epoxy resin in which conductive powder such as

carbon, silver, nickel or the like has been dispersed because each is one of multiple design choices with no new or unexpected results.

52. Claim 38 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Dvorak** and Sukurai and Bechtel et al (US 2003/0011306). Claim 33 is rejected as described above. Bechtel teaches a protective layer is laminated onto a surface layer. It would have been obvious to modify **Application No. 11874701** in view of **Broderick** to include a protective layer is laminated onto at least one of the surface sides of said conduct layer and pattern layer because it is one of multiple design choices with no new or unexpected results.

53. Claim 39 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and Sukurai and Bechtel et al (US 2003/0011306). Claim 33 is rejected as described above. Broderick teaches a wave absorber comprising a conduct layer composed of an electric conductor, (fig 5, item 76), a first dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 78), a planar resistance layer composed of a dielectric material conductor (fig 5, item 84), a second dielectric layer composed of dielectric material in one layer or multiple layers (fig , item 80) the conduct layer reflects EM waves passed through the pattern layer, the second dielectric layer, the planar resistance laver and the first dielectric layer (col 8). Broderick does not teach a pattern layer having multiple patterns composed of an electric conductor wherein each pattern in said pattern layer differs in either or both

of size and form relative to another adjacent pattern. **Application No. 11874701** teaches a pattern layer having multiple patterns composed of an electric conductor and a process of forming a prepreg (col 8, lines 42-68). Sukurai teaches dielectric material containing conductive powder (para 16). Okayama teaches laminating multiple layer of a wave absorber into a pertinent order (col 11, lines 21-33) and with respect to said planar resistance layer, said first dielectric layer and said second dielectric layer are bonded with interposition of the pertinent planar resistance layer (col 11, lines 21-23). It would have been obvious to modify **Broderick** in view of **Application No. 11874701** to include a said conduct layer, said first dielectric layer, said linear pattern resistance layer, said second dielectric layer, and said pattern layer are laminated in the pertinent order or said conduct layer, said first dielectric layer, said pattern layer, said second dielectric layer, and said linear pattern resistance layer are laminated in the pertinent order because each is one of multiple design choices with no new or unexpected results.

54. Claim 40 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and Sukurai and Ishikawa (US 4726980). Claim 39 is rejected as described above. Ishikawa teaches planar resistance layer is composed of material where glass cloth is impregnated with epoxy resin in which conductive powder such as carbon, silver, nickel or the like has been dispersed (col 1, lines 19-27). It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and Sukurai to include planar resistance layer is composed of material where glass cloth is

impregnated with epoxy resin in which conductive powder such as carbon, silver, nickel or the like has been dispersed because each is one of multiple design choices with no new or unexpected results.

55. Claim 44, 42, and 46 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Sukurai** and **Okyama**. Broderick teaches a wave absorber comprising a conduct layer composed of an electric conductor, (fig 5, item 76), a first dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 78), a planar resistance layer composed of a dielectric material conductor (fig 5, item 84), a second dielectric layer composed of dielectric material in one layer or multiple layers (fig 5, item 80), the conduct layer reflects EM waves passed through the pattern layer, the second dielectric layer, the planar resistance laver and the first dielectric layer (col 8). Broderick does not teach a pattern layer having multiple patterns composed of an electric conductor wherein each pattern in said pattern layer differs in either or both of size and form relative to another adjacent pattern. **Application No. 11874701** teaches a pattern layer having multiple patterns composed of an electric conductor and a process of forming a prepreg (col 8, lines 42-68). Sukurai teaches dielectric material containing conductive powder (para 16). Okayama teaches laminating multiple layer of a wave absorber into a pertinent order (col 11, lines 21-33) one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive carbon powder (para 16). t would have been obvious to modify **Broderick** in

view of **Application No. 11874701** to include one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive carbon powder because each is one of multiple design choices with no new or unexpected results. Okayama teaches laminating multiple layer of a wave absorber into a pertinent order (col 11, lines 21-33) and with respect to said planar resistance layer, said first dielectric layer and said second dielectric layer are bonded with interposition of the pertinent planar resistance layer (col 11, lines 21-23). It would have been obvious to modify **Broderick** in view of **Application No. 11874701** to include a said conduct layer, said first dielectric layer, said linear pattern resistance layer, said second dielectric layer, and said pattern layer are laminated in the pertinent order or said conduct layer, said first dielectric layer, said pattern layer, said second dielectric layer, and said linear pattern resistance layer are laminated in the pertinent order because each is one of multiple design choices with no new or unexpected results.

56. Claim 43 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Sukurai** and **Okyama and** Pusch (US 4621012). Pusch teaches (claim 7) the surface resistivity of said high-resistance conductor layer is in a range from 100 /square to 100 k /square (col 1, lines 38-47). It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and **Sukurai** and **Okyama and** to include the surface resistivity of said high-resistance conductor layer is

in a range from 100 /square to 100 k /square because it is one of multiple design choices with no new or unexpected results.

57. Claim 44 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Sukurai** and **Okyama and** Honda et al (US 5961893). Honda teaches (claim 13) one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive oxide (col 7, line 68 to col 8, lines 8). It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and **Sukurai** and **Okyama** to include one layer among said high-resistance conductor layer, first dielectric layer and second dielectric layer is composed of dielectric material containing conductive oxide because each is one of multiple design choices with no new or unexpected results.

58. Claim 45 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending **Application No. 11874701** in view of **Broderick** and **Sukurai** and **Okyama and** Honda and Bottari et al (US 2004/0189612). Bottari teaches (claim 14) a conductive oxide is dielectric material containing ATO (para 31).It would have been obvious to modify **Application No. 11874701** in view of **Broderick** and **Sukurai** and **Okyama** in view of Honda to include a conductive oxide is dielectric material containing ATO because it is one of multiple design choices with no new or unexpected results.

Response to Arguments

59. Applicant's arguments with respect to claims 1-46 have been considered but are moot in view of the new ground(s) of rejection. The applicant argues that figure 1 of Broderick does not teach the amendments of the independent claims. The rejection has been amended such that figure 5 is the rejecting embodiment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY A. BRAINARD whose telephone number is (571)272-2132. The examiner can normally be reached on Monday - Friday 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571) 272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/T. A. B./

Examiner, Art Unit 3662

/Thomas H. Tarcza/

Supervisory Patent Examiner, Art Unit 3662